

PATENT DOCUMENT DE 197 25 159 C 1

Summary

- (54) Measuring device for the detection and measurement of eyeglass components
- (57) The present invention concerns a measuring device for the detection and measurement of eyeglass components, whereby the outline of the eyeglass frame is detected in the xy plane by means of a contactless optoelectronic sensing device with a matrix camera. A second sensing device is attached to the first sensing device, whereby the second sensing device consists of a one-dimensional triangulation measuring sensor and a mirror array attached thereto. By means of the first sensing device and/or the matrix camera, the outlines of the frame components are measured in the xy plane and stored, while, by means of the second sensing device, via the mirror array attached thereto, the laser measuring beam goes around the outlines in the z direction. The second sensing device and/or the mirror array are moved to several measuring points along the frame components, in the respective z direction, whereby this process takes place along movement curves which are determined by a computer so as to be equidistant from the detected inner and outer outlines of the frame in the xy plane.

Principal Claim

1. Measuring device for the detection and measurement of eyeglass components, whereby the eyeglass frame is affixed to a support by means of a holding device, whereby, by means of a contactless optoelectronic sensing device, the outline of the eyeglass frame is detected in the xy plane and the measuring data thereby determined, along with additional measuring data in the z direction, are input to an electronic evaluation device for the calculation of spatial curves of the eyeglass frame, wherein a first sensing device (2) takes the form of a matrix camera (3) for the determination of the frame component outlines in the xy plane, and wherein, as a second sensing device (5), a one-dimensional triangulation measuring sensor attached to the first measuring device is provided, and wherein one or more movement curves (15, 16), at a distance from the detected frame component outlines in the xy plane, are constructed and input to a storage device, and wherein a mirror array (7) is attached to the one-dimensional triangulation measuring sensor (6), and wherein the mirror array (7) serves to conduct the measuring beam (20) of the triangulation measuring sensor (6) around the frame components, and wherein the movement curves (15, 16) are used for the sending and generation of profiles of the frame components in the z direction by moving the one-dimensional triangulation measuring sensor (6) and the mirror array (7) attached thereto along the movement curves and to the measuring points, by moving the one-dimensional triangulation measuring sensor (6) and/or the mirror array (7) in the z direction or by pivoting a mirror (19) of the mirror array (7).